ESO Astrophysics Symposia 2008 vol.2008, pages 21-30

Multiple stars: Physics vs. dynamics

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Abstract

We review physical and dynamical parameters of multiple stars. Possible scenaria of multiple star formation are discussed: their birth in dense cloud cores and the decay of small stellar groups and clusters. We compare physical and dynamical features of simulated multiple stars formed by these processes with the actual multiple stars. Multiplicity function, their period, eccentricity and mass ratio distributions, hierarchy of the structures are analysed. Also we discuss multiple systems where the apparent ages of the components are different. Such diferences can be explained by poor evolutionary tracks for low-mass stars, by formation of such systems by capture or by merging of components during dynamical evolution of multiple stars.

http://dx.doi.org/10.1007/978-3-540-74745-1_3